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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,894	09/26/2003	Ulrich Bonne	H0004785 (1100.1206101)	9559
128	7590	09/08/2004	EXAMINER	
HONEYWELL INTERNATIONAL INC. 101 COLUMBIA ROAD P O BOX 2245 MORRISTOWN, NJ 07962-2245				FITZGERALD, JOHN P
		ART UNIT		PAPER NUMBER
				2856

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/672,894	BONNE ET AL. <i>AN</i>	
	<b>Examiner</b>	<b>Art Unit</b>	
	John P Fitzgerald	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All
    - b) Some \*
    - c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)              |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/28/04</u> . | 6) <input type="checkbox"/> Other: _____.  |

**DETAILED ACTION**

***Specification Objections***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Phased Micro Fluid Analyzer.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. § 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 8 and 9 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,393,894 to Bonne et al. Bonne et al. disclose a fluid analyzing means (Figs. 1-9) having means for pumping a fluid (120); and a means for concentrating the fluid with a heat pulse having a rate of movement approximately the same as a rate of the movement of the fluid (Figs.

3 and 4) (as recited in claim 8); means for separating components of the fluid (126); and means for controlling (13) the means for pumping, means for concentrating and the means for separating.

4. Claims 12 and 13 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,393,894 to Bonne et al. Bonne et al. disclose a method of analyzing a fluid (Figs. 1-9) including the method steps of pumping (120) a fluid into containment (32); heating the fluid in the containment with a heat pulse that moves through the containment at a speed about the same speed as the speed of the fluid (Figs 3 and 4); and further including the step of separating (126) components of the fluid.

5. Claims 16-18 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,393,894 to Bonne et al. Bonne et al. disclose a fluid analyzer (Figs. 1-9) having a fluid mover (120); a concentrator (124) connected to the fluid mover; a separator (126) connected to the concentrator; and a heat pulse generator (40, 42, 44, 46) situated in the concentrator generating a heat pulse that can move along with a fluid in the concentrator; and at least one detector (128) situated in the analyzer.

6. Claim 21 is rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,393,894 to Bonne et al. Bonne et al. disclose a fluid analyzer (Figs. 1-9) having a concentrator (124); a separator (126) connected to the concentrator; at least one detector (128); and a controller (130) connected to the concentrator, the separator and the at least one detector and wherein all the elements are integrated on a chip (Fig. 9).

***Claim Rejections - 35 USC § 103***

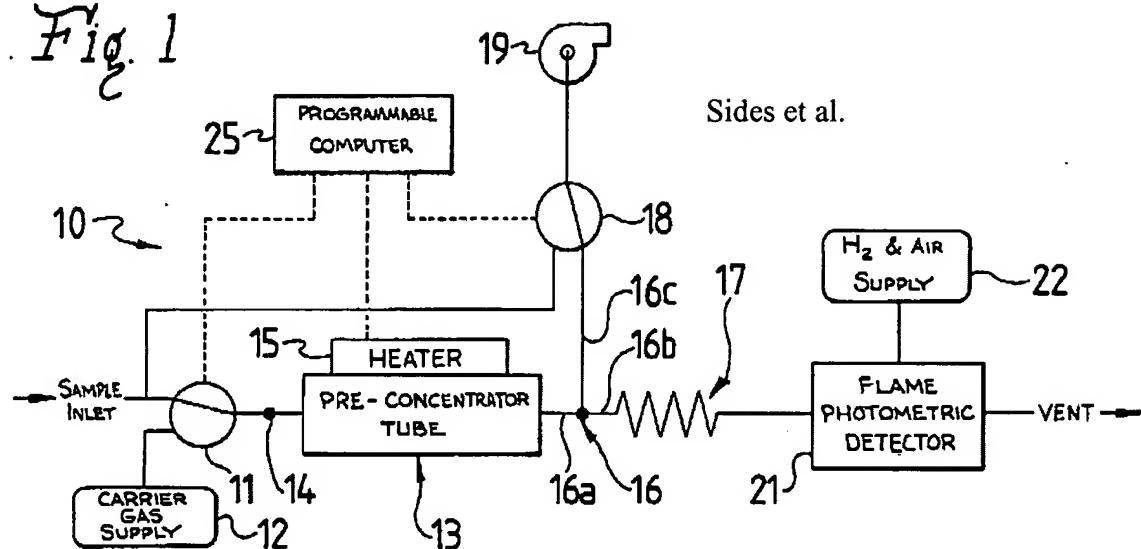
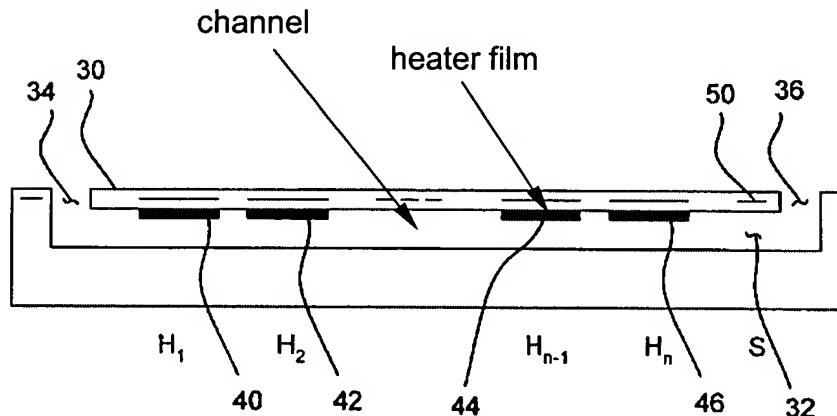
7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

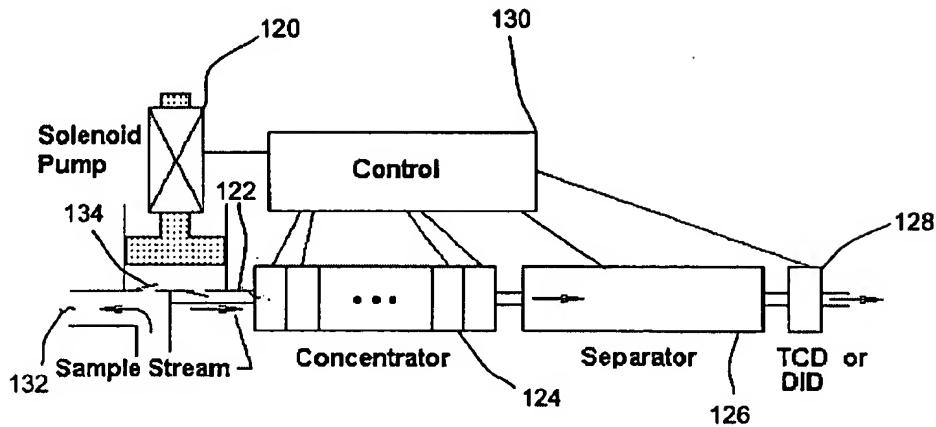
8. Claims 1-7, 10, 11, 14, 15, 19 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 4,806,441 to Sides et al. and US 6,393,894 to Bonne et al. Sides et al. disclose a fluid analyzer (Figs. 1-5) having a pump (19), a concentrator (13) connected to the pump; and a separator (17) connected to the concentrator; wherein the concentrator has a temperature controlled heater (15) controlled by a controlling mechanism (25) connected to the elements, wherein the heater operates on a tube within which the fluid to be analyzed is flowing and a detector (21) connected to the separator (i.e. ‘second detector’ as recited in claim 4). Sides et al. do not expressly disclose a fluid analyzer having a channel; and a continuous heater film in the channel wherein the film generates a moving heat zone within the channel and wherein the rate movement of the heat zone is approximately the same as the fluid moving through the channel (as recited in claims 1 and 2); a first detector situated between the pump and the concentrator; a third detector between the concentrator and separator (as recited in claim 5); wherein the first a detector is a thermal conductivity detector and wherein the detector connected to the separator (‘second detector’) is a thermal conductivity detector and the third detector is a flow sensor. Bonne et al. disclose a fluid analyzer (Figs. 1-9) wherein having a controller (14, 130) for controlling a pump, concentrator, separator and detector (Fig. 6) (as recited in claim 20)

and a series of heater elements (40, 42, 44, 46) operating on a fluid moving with a channel (32) of a concentrator (124); wherein the heater elements may vary in size, number or formed as a single layer/film (Bonne et al.: col. 2, lines 1-65) (as recited in claim 1); wherein the heater elements creating a moving heat zone which creates concentration pulses of the constituent gases within the fluid to be detected, the concentration pulses (i.e. fluid) moving at approximately the same speed as the heat zone (Figs 3 and 4) (as recited in claims 2 and 3); and the employment of various types of detectors, such as thermal conductivity detectors, discharge ionization detector, or any other type of detector such as those commonly used in gas chromatography (Bonne et al: col. 2, lines 12- 22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the heater elements/film, as taught by Bonne et al., modifying the fluid analyzer disclosed by Sides et al., thus creating a multiplication effect which results in increasing the effective sensitivity of the detector due to the increase in concentration of the gas constituents at the detector (Bonne et al.: col. 1, lines 54-57). In specific regards to the first and third detectors as well as detectors recited in dependent claims 10, 11, 14, 15 and 19, and their specific locations and connections, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any type of detector desired at various locations of the interacting elements of the flow analyzer and is well within the design choice of one having ordinary skill in the art to monitor/detect the fluid moving through the analyzer.

Fig. 1

channel  
heater film***FIG. 2***

Bonne et al.



**FIG. 6**

Bonne et al.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Manginell et al., Neal, Bacaud et al., Staples et al., Rounbehler et al., Corrigan et al., Drew et al., Wickham, Madhusudhan et al., Hickam et al., Showalter et al. and Haely all teach various elements of the instant invention as well as other teachings of common elements employed with gas chromatography such as thermal conductivity sensors/detectors, flow sensors and temperature sensors.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an

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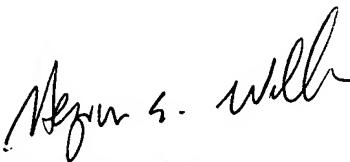
application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF

09/07/2004



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